

LESSON
8.1**Practice C**

For use with pages 506–513

Find the sum of the measures of the interior angles of the indicated convex polygon.

1. 21-gon

2. 35-gon

3. 50-gon

The sum of the measures of the interior angles of a convex polygon is given. Classify the polygon by the number of sides.

4. 1440°

5. 3060°

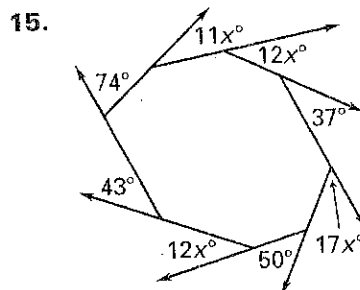
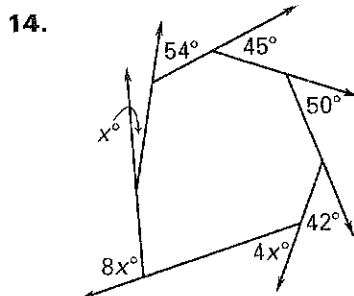
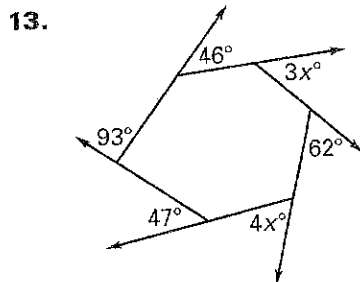
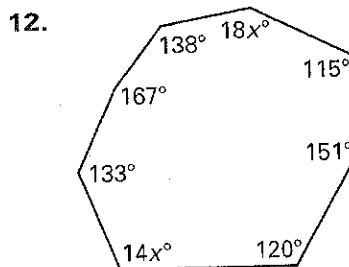
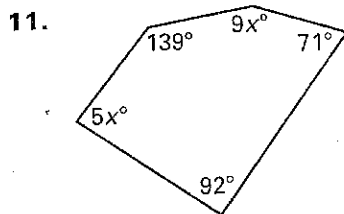
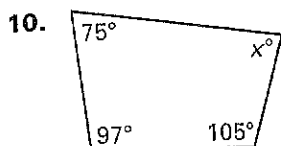
6. 3780°

7. 6480°

8. 8100°

9. 8820°

Find the value of x .



16. What is the measure of each interior angle of a regular nonagon?

17. The measures of the exterior angles of a convex hexagon are 45° , 60° , x° , $3x^\circ$, $7x^\circ$, and 90° . What is the measure of the largest exterior angle?

18. The measures of the interior angles of a convex decagon are 150° , 145° , 130° , $34x^\circ$, $35x^\circ$, 135° , 160° , 120° , $30x^\circ$, and $21x^\circ$. What is the measure of the smallest interior angle?

Find the measures of an interior angle and an exterior angle of the indicated regular polygon.

19. Regular heptagon

20. Regular dodecagon

21. Regular 17-gon

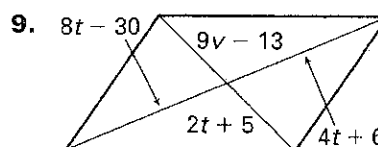
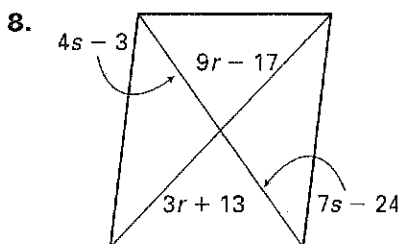
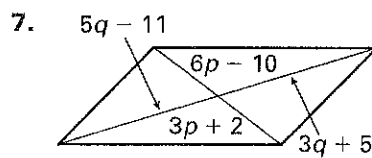
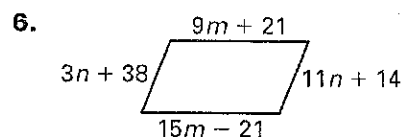
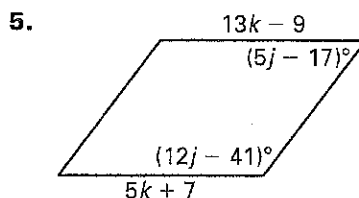
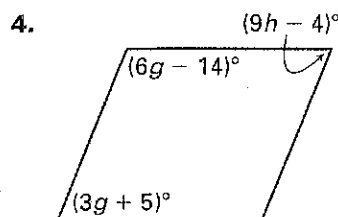
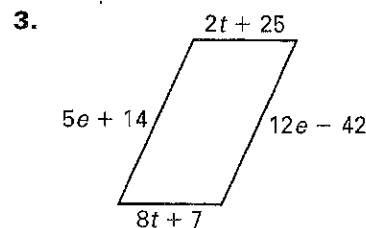
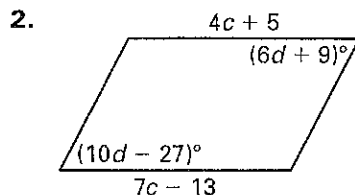
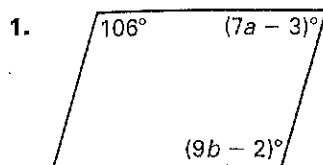
22. Regular 50-gon

23. Regular 70-gon

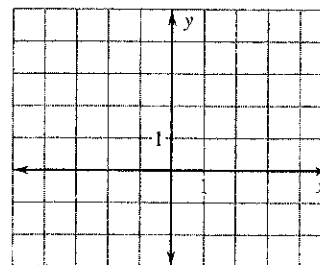
24. Regular 125-gon

LESSON
8.2**Practice C**

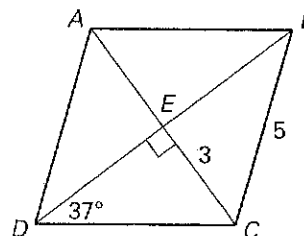
For use with pages 514–521

Find the value of each variable in the parallelogram.

10. The coordinates for $\square ABCD$ are $A(-1, 3)$, $B(4, 2)$, $C(2, -1)$, and $D(-3, 0)$. Plot the points and draw $\square ABCD$ on the coordinate plane. Then draw the diagonals \overline{AC} and \overline{BD} . Label the intersection of the diagonals as point E . What are the coordinates of point E ?

**Find the indicated measure in $\square ABCD$. Explain.**

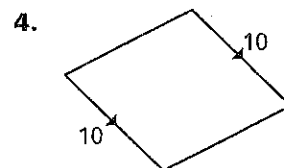
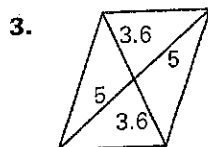
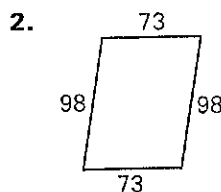
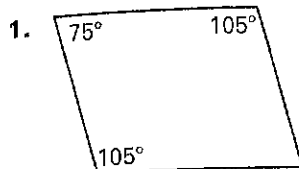
- | | |
|---------------------------------|----------------------------------|
| 11. AE | 12. AD |
| 13. EB | 14. DB |
| 15. AB | 16. Perimeter of $\triangle AEB$ |
| 17. $m\angle DBA$ | 18. $m\angle DEC$ |
| 19. $m\angle ACD$ | 20. $m\angle CAB$ |
| 21. Perimeter of $\square ABCD$ | |



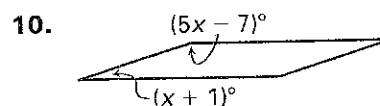
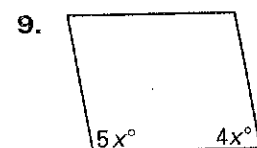
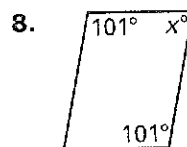
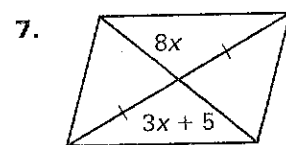
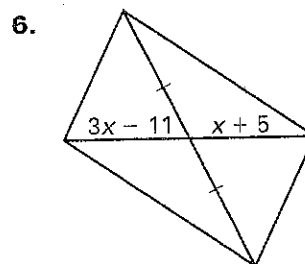
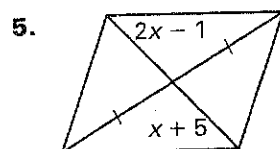
LESSON
8.3
Practice B

For use with pages 522–529

What theorem can you use to show that the quadrilateral is a parallelogram?



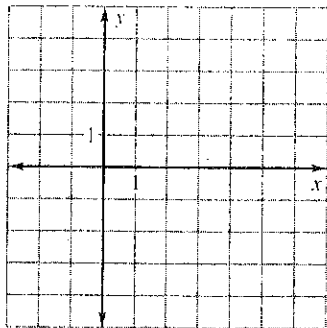
For what value of x is the quadrilateral a parallelogram?



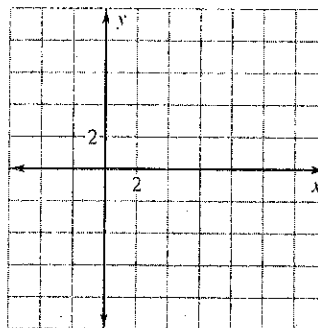
LESSON
8.3
Practice B *continued*
 For use with pages 522–529

The vertices of quadrilateral $ABCD$ are given. Draw $ABCD$ in a coordinate plane and show that it is a parallelogram.

11. $A(-2, -3), B(0, 4), C(6, 4), D(4, -3)$

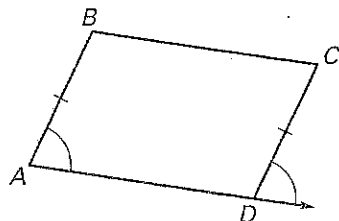


12. $A(-3, -4), B(-1, 2), C(7, 0), D(5, -6)$

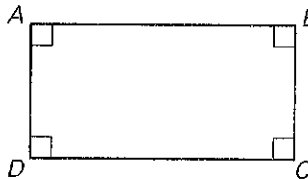


Describe how to prove that $ABCD$ is a parallelogram.

13.

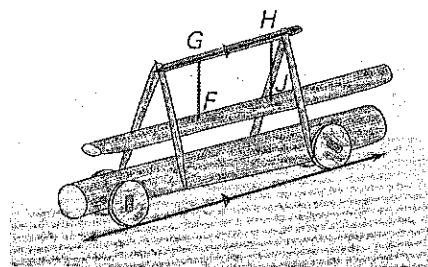


14.



15. Three vertices of $\square ABCD$ are $A(-1, 4)$, $B(4, 4)$, and $C(11, -3)$. Find the coordinates of point D .

16. **History** The diagram shows a battering ram which was used in ancient times to break through walls. A log is suspended on ropes of equal length (\overline{GF} and \overline{HJ}). The log swings, causing quadrilateral $FGHJ$ to shift. In the diagram, $\overline{GH} \cong \overline{FJ}$ and \overline{GH} is parallel to the ground.



- a. Identify $FGHJ$. Explain.
 b. Explain why the log is always parallel to the ground.

17. **Proof** Use the diagram at the right.

GIVEN: $\triangle ABC \cong \triangle CDA$

PROVE: $ABCD$ is a parallelogram.

